

SECRET

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Monthly Report

PAR 243A

30 Sep 66

SUBJECT: Briefing Print Enlarger (Prototype)

TASK/PROBLEM

1. Design, fabricate and test a prototype briefing print enlarger (BPE) based upon tests and observations of the breadboard equipment developed on the combined PAR 202/224.

DISCUSSION

2. The production of drawings for parts fabrication and assembly has continued during this month. Detail drawings produced have been for the:

- a. Negative transport assembly,
- b. Print stock platen:
 - (1) Covers,
 - (2) Carriage, and
 - (3) Drive and focus assembly.
- c. Electrical system cabinets.

3. Considerable work has been accomplished on the electrical system drawings; i.e., chassis layouts, cable diagrams, and procurement parts lists.

4. The assembly drawings are approximately 20% complete.

5. A series of tests was made to explore the value of heater elements at the upper edge of the negative gate enclosure to shorten the time required for evaporation of the immersion fluid from the film. In the course of these tests, it was found that after injection of the fluid and closing of the gate:

- a. There is a bead of excess fluid between the film and the gate glasses at the periphery of each gate glass.

- b. If the gate is opened and the film withdrawn before the bead of fluid evaporates, the excess fluid runs down the surface of the film to form a fluid bead along the bottom edge of the film.

- c. An extended period of time -- one to two minutes -- is required for fluid evaporation.

Declass Review by NGA.

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As a result of these findings, we are now exploring means to contact the edge of the film with an absorbing medium, to remove the fluid bead by capillary action, before the lower edge of the film passes the heating element and emerges from the gate enclosure.

6. On 14 and 15 September, the customer's representative held a conference at the contractor's facility to acquaint three technical liaison men from other organizations with the progress of development effort. Discussion covered:

- a. Achievements in the completed breadboard, PAR 202/224.
- b. Design goals.
- c. Configuration, and
- d. Status.

7. During this conference, the following comments were made for the consideration of the designers:

a. The interchangeable objective lens and the condenser assemblies should be identified with a particular enlarger -- perhaps by serial number.

b. Service covers should be readily removable.

c. Transport caster dollies should be mounted on the frame by machine screws.

d. De-activation of the hand-knob lockout for fine, film-position control should not be possible for the operator.

e. Interchangeable lens assemblies should have "full-hand" handles. All the features suggested were already incorporated or have been incorporated into the design.

PLANNED ACTIVITY

5. During the month of October, we plan to:

a. Continue work on the assembly drawings and electrical system drawings.

b. Complete the layout of the platen blower housing and of the lens storage cabinets.

c. Complete the design of the negative gate enclosure and fluid removal system.

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